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IMPLEMENTING CHANGE:
A GUIDE FOR THE DoD FUNCTIONAL MANAGER

by

Kenneth C. Ritter

September, 1993

Advisor: William J. Haga

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The Department of Defense (DoD) has launched the Corporate Information Management (CIM) initiative to help improve DoD acquisition and implementation of information systems. Key to the successful implementation of new information systems is the improvement or redesign of current DoD business processes, rather than automating an existing inferior process. Once the functional manager has improved or redesigned the processes, the next step is to implement them within the manager's organization. To effectively implement change, the manager must establish a plan for implementation, manage the implementation, effectively communicate the changes to the organization, monitor and evaluate the changes, and then execute changeover to the new system. This thesis provides a guide for the DoD functional manager for the implementation of business process improvement changes.

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Implementing Change:
A Guide for the DoD Functional Manager

by

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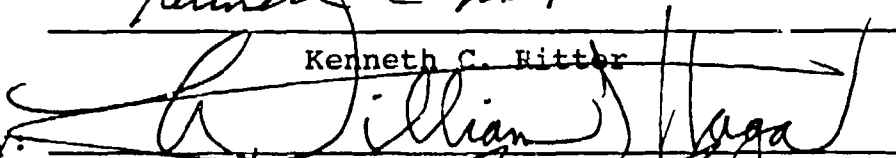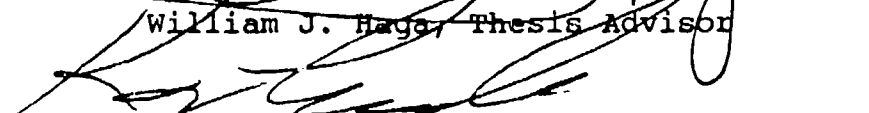
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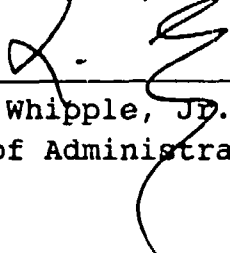September 1993

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ABSTRACT

The Department of Defense (DoD) has launched the Corporate Information Management (CIM) initiative to help improve DoD acquisition and implementation of information systems. Key to the successful implementation of new information systems is the improvement or redesign of current DoD business processes, rather than automating an existing inferior process. Once the functional manager has improved or redesigned the processes, the next step is to implement them within the manager's organization. To effectively implement change, the manager must establish a plan for implementation, manage the implementation, effectively communicate the changes to the organization, monitor and evaluate the changes, and then execute changeover to the new system. This thesis provides a guide for the DoD functional manager for the implementation of business process improvement changes.

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I. INTRODUCTION

A. BACKGROUND

Faced with a need to maintain a strong military with fewer resources, the Department of Defense (DoD) launched its Corporate Information Management (CIM) initiative to streamline operations and manage information resources more effectively (U.S. General Accounting Office, 1992). For the CIM initiative to be considered a success, CIM must achieve a promised $2.2 billion in net savings between 1991 and 1995 (U.S. General Accounting Office, 1989). As a part of its savings program, the CIM office may not approve a major system purchase unless a system applies to processes that have been satisfactorily evaluated and redesigned (White, 1992). CIM's reasoning is that automating without redesign often results in automation of an inferior process, which produces a more sophisticated, high-tech, but none the less inferior operation. Therefore, managers should automate only well designed, value-added business processes (White, 1992).

Modeling is used to evaluate and redesign processes. In order to gain an understanding of what is required to successfully redesign any process so that effective redesign can be promoted throughout DoD, the CIM office sought to model the process of improving business processes (REAP, 1992). In

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March 1992, the Redesign Experts and Practices (REAP) team was established. This team was tasked to model the business redesign model itself using the IDEF (Integrated Computer Aided Manufacturing Definitions Language) methodology. (Many DoD organizations are currently using the IDEF methodology to model their business processes, including such organizations as the Army Corps of Engineers) (White, 1992). REAP's March exercise resulted in a model of what a redesign team should do, but not how to do it (White, 1992).

In August, 1992, a second REAP exercise was conducted to (1) build on the first redesign model completed in March, and (2) concentrate on how a functional manager should approach redesign. This thesis uses the results of the second exercise - a model of what was termed the Process Improvement Process (PIP) - to explore how one part of the PIP, the implementation of change, can be accomplished.

The next section summarizes the history of the CIM effort and the REAP team's role in it. This history has been taken in large part from a 1992 Naval Postgraduate teaching case entitled "Corporate Information Management in DoD" (Haga, 1992) and the August, 1992 REAP team report (REAP, 1992). Additionally, some of the history comes from White's (1992) synopsis of Schweizer and Steele (1991) and Leong-Hong (1990). IDEF methodology, nomenclature and basic tools used, and how the REAP team modeled the process for process improvement and

the results of the August 1992 exercise will be covered in Chapter II.

B. HISTORY OF CORPORATE INFORMATION MANAGEMENT (CIM)

In July 1989, the House Armed Services Committee responded to Government Accounting Office (GAO) reports of mismanagement of automated data processing in DoD by suggesting that funding would no longer be forthcoming for DoD investments in information technology until the department devised a unified, non-duplicative, comprehensive strategy for its information technology (IT). DoD was then spending nine billion dollars annually on IT resources. In response to Congressional criticism, the Secretary of Defense appointed a Deputy Secretary (DSD) from the private sector to manage the DoD comptroller office which included the office of DoD Information Resources Management (IRM). The DSD brought with him a Corporate Information Management (CIM) strategy that was being implemented by his former employer. That corporation wrestled with information system problems familiar to DoD watchers: divisional parochialism, divisional rivalry, not-invented-here syndrome, duplication, obsolescence, data incompatibilities and attachments to computer architectures that were more theological than technical. The company had devised CIM to bring information resources together across divisional boundaries (Haga, 1992).

In November 1989, DoD created a CIM office under the deputy comptroller for IRM. She appointed a director of CIM who began implementing the DSD's CIM recipe for standardizing information resources. The emphasis was on unification and standardization. The strategies were to be devised at the DoD level rather than being an amalgam of the parochial interests and historically evolved systems of the individual services and agencies (Haga, 1992).

For FY 91, the CIM office requested $200 million for its operating budget. Instead of granting this request, Congress took one billion dollars out of the IT budget in the Defense Appropriations Bill and gave it to the CIM office. The bulk of this billion dollars would be returned to the services only if the systems they sought to fund met CIM standards. As a result, CIM was given virtual veto power over investments in IT by the services and other federal agencies. The message to federal agencies was clear. Any new proposal for IT acquisition had to possess the capability for DoD-wide standardization (White, 1992).

In December 1990, the Secretary of Defense moved the CIM office out of the comptroller office and placed it under the Assistant Secretary of Defense for Command, Control, Communications and Intelligence (ASD[C3I]). Under this arrangement, the Defense Communications Agency was renamed the Defense Information Systems Agency and was tasked with carrying out the CIM program (White, 1992). Additionally, the

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IRM director became the Deputy Assistant Secretary for Information Systems.

In January 1991, the ASD (C3I) created the position of Director of Defense Information (DDI) to manage information technology (IT) DoD-wide. An IT executive, the former Chief Information Officer for Xerox, was appointed to the post early in 1991. Within six months of his appointment, the DDI began to expand the CIM concept to encompass business process redesign. He said that if DoD was going to be smaller, it had to work smarter. Rather than make across-the-board cuts in information systems, he sought to squeeze non-value-added elements out of business processes. Only after a process had been redesigned down to its value-added activities would it be considered for automation (White, 1992).

In April 1991, a member of the Naval Postgraduate School (NPS) Department of Administrative Sciences visited the DDI to explore possibilities for CIM-funded research into information systems. The DDI proposed that NPS could assist his office by undertaking research related to the implementation of business process redesign in DoD. He funded a research project to be undertaken in FY 92 (REAP, 1992).

In February 1992, a special assistant to the DDI, formerly a successful practitioner of business process redesign with the Army Corps of Engineers, met with NPS representatives in Monterey to finalize tasking for the research project. An agreement was reached in which a NPS faculty-student research

team would model the business process redesign using the IDEF modeling tool. The resultant model of the modeling process would be incorporated into a guide book on process redesign for DoD functional managers (REAP, 1992).

At the end of March 1992, the NPS faculty-student research team, joined by the NPS Dean of Information Systems, participated in a five-day IDEF modeling exercise in Monterey conducted by the D. Appleton Company, Incorporated. During the course of that exercise, this group named itself the Redesign Experts And Practices (REAP) team. The exercise identified five activities that constitute the process of process improvement from the team's perspective as providers of support to functional managers:

1. Describe how to marshall resources for a redesign effort.

2. Describe how to create an environment for discontinuous thinking.

3. Describe how to understand AS-IS processes.

4. Describe how to evaluate a process.

5. Describe how to implement changes proposed by a redesign team (REAP, 1992).

In April 1992, the results of this exercise, including the IDEF model of these five activities and their interconnections were forwarded to the DDI's special assistant for business process redesign. The response from that office was that the March exercise, although ostensibly aimed at dealing with the

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"hows" of business process improvement had dealt only with a set of "whats". Without the "hows", there was little guidance or instruction to offer to functional managers embarking upon a process redesign. The special assistant tasked the REAP team to undertake a specification of the "hows," again employing the IDEF modeling tool (REAP, 1992).

On August 28, 1992, the REAP team convened near Carmel, California to undertake its second five-day IDEF exercise, again with facilitation provided by D. Appleton Company. The perspective in this workshop was to shift from that of the REAP team to that of a functional manager facing the prospect of redesigning a business process. Moreover, the aim of this exercise was to set the stage for describing the "hows" of undertaking process redesign (REAP, 1992).

C. PURPOSE

The two research goals of this thesis are:

(1) Provide information and guidance to the functional manager on how to accomplish each of the sub-activities under the Implement Changes process in the PIP model.

(2) Verify that the ideas in the breakdown of the Implementing Change process are supported by existing management theory.

The ultimate goal is to provide the basis for a manual that helps the DoD functional manager implement changes formulated during the Process Improvement Process.

II. THE PROCESS IMPROVEMENT PROCESS (PIP)

The following section describes the IDEF methodology used by the REAP team. Section B, Mission and Scope, and Section C, PIP Results, are taken from the August, 1992 REAP report (REAP, 1992).

A. IDEF METHODOLOGY

The REAP team chose the IDEF modeling tool to create a model of the PIP. IDEF was chosen primarily because it is the same tool that functional DoD managers will use to model their own processes. In general, IDEF works by uncovering all relevant factors influencing or coming from a process and categorizing them as either an input, output, control, or mechanism (ICOM) (White, 1992).

1. Defining a Process

A process is an activity that occurs over time and transforms inputs (information or materials) into recognizable outputs. The term process is synonymous with activity, task, and function in the IDEF methodology. Each process is constrained by controls and carried out by mechanisms. A process can be broadly or narrowly defined depending on the level of detail required. For example, a process can be as large as a process for constructing a skyscraper, or as small as a process for riveting steel beams. More broadly defined

processes are placed at higher levels and narrowiy defined ones at lower levels in the IDEF hierarchy (White, 1992).

2. IDEF Methodology Evolution

Developed by the Air Force in the 1970's to increase manufacturing productivity, IDEF evolved from the Integrated Computer-Aided Manufacturing (ICAM) Program. From this program a need arose to define procedures for developing models to display business activities, and the rules associated with their data structures. IDEF was chosen to fulfil those needs (White, 1992).

IDEF has two components. IDEF0 defines overall business activities and relationships. IDEF1X defines actual business rules applying to the lowest level activities (White, 1992).

3. Modeling Process

A modeling process begins with a group exercise led by an expert IDEF facilitator. The facilitator explains how the modeling process works and then asks group members what objectives they have for the exercise. The group then decides which of these objectives are critical to its success.

Modeling occurs from the top down. First the broader overall process is modeled using node trees (a hierarchical view of the upper level activities). Sub-processes existing within a node are then identified using context diagrams, which show a single process and its ICOM's. Finally,

decomposition diagrams are used to show an entire level of sub-activities of the parent with ICOM's. With each model is a glossary that defines all terms used.

B. MISSION AND SCOPE

The charter of the Redesign Experts and Practices (REAP) team was to produce a quality model of the Process Improvement Process (PIP) using IDEF0 modeling techniques.

Using the outline of redesign "whats" developed in March, the August PIP was to detail the "how" of business process redesign. REAP's objective was to produce a model of the redesign process model that can be used in a handbook on business process redesign for functional managers.

The project's scope lay in the domain of the DoD functional manager, who is defined as a manager responsible for any organizational activity or business process that is subject to redesign. A so-called functional manager could be, for these purposes, a program manager, a line operations manager or someone who, in DoD convention, is known as a "functional manager" by virtue of his or her control of such activities as military payroll, medical services or civilian personnel administration (REAP, 1992).

C. PIP RESULTS

The experience of IDEF0 was different from the first exercise in March (REAP, 1992). In March, members of the REAP

team critically evaluated the IDEF model, noting weaknesses in assumptions and definitions. Though such critical analysis was a valuable learning experience appropriate for the students and faculty who composed the REAP team, the outcome was a process model of little value to the CIM office because it was of little value to guiding practicing functional managers in process improvement (REAP, 1992).

During the August exercise the planning tool, IDEF, was used- not analyzed. Participants listened, debated and achieved a consensus on each ICOM that was critical and thoughtful. An immediate result was a useful tool for decision-makers (REAP, 1992).

The REAP team believes its model of the PIP is:

- Comprehensive in including all of the activities that a redesign team must consider if it is to be successful.

- Realistic in developing ICOM relationships between activities and sub-activities.

- A useful, insightful framework upon which CIM can build guidance and training of redesign eams throughout DoD (REAP, 1992).

The REAP team identified the following four major activities for effective process redesign (See the A0 level decomposition diagram contained in Appendix A):

(1)   Activity A1: Marshall resources.

(2)   Activity A2: Create an environment for discontinuous
                      thinking.

(3)   Activity A3: Design the needed process.

(4)   Activity A4: Implement changes.

The following sub-activities of activity A4, which will be explored in following chapters, were described by the REAP team. An IDEF model for each activity, A1 through A4, is contained in Appendix B.

(A4) Implement Changes uses an organization's resources to execute the recommended changes under DOD policy and guidelines, as well as using other recommended techniques.

Included in the Implement Changes process are the following sub-activities:

(A41) The Establish Implementation Structure process creates a management appointed Project Team to formulate a structure, plans, and guidelines to implement the recommended changes within an organization, using the REAP database and established techniques for change implementation.

(A42) The Manage Project process provides methods to schedule, monitor, and evaluate the recommended changes using the implementation structure.

(A43) The Provide Change Communication process is the vehicle used by the Project Team to communicate the recommended changes to various levels of the organization, and

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then educate and train members of the organization to function within the new structure.

(A44) The Monitor and Evaluate Change process uses the implementation structure and Project Team to monitor and evaluate the changes be⁻   made within the organization.

(A45) The Execute Changeover process is the actual point in time where the organization has changed over to the new structure.

III. IMPLEMENTATION STRUCTURE

A. BACKGROUND

The functional manager is now ready to begin the task of implementing the changes produced during the Process Improvement Process (PIP). Several challenges lay ahead as he or she begins. First and foremost is establishing a plan to implement the change. At this point the manager should consider himself or herself a change leader or change agent, defined as someone with the expertise to administer the right change in the proper doses (Grossman, 1975). The task is to deliver the PIP stage changes, that is, to implement them, in the proper doses, but more importantly, in the proper fashion. A manager must possess (1) flexibility to handle problems and events that were not planned for, (2) opportunism to handle unforeseen events that will help the change process, (3) thoughtful reflection and self-awareness to help consider feedback and suggestions from others, and (4) perseverance in staying with their convictions and handling the problems and difficulties of implementing change (Kanter, et al., 1992).

Change is not easy for most people to accept, especially a great deal of change (Margulies and Wallace, 1973). It is likely that the changes from the PIP will be dramatic, designed to completely restructure (or reengineer) the

organization. This will most likely make it even that much more difficult to implement the changes. The role of the manager, the change agent, is to overcome this resistance and effectively implement these changes.

An important factor contributing to the successful implementation of change in an organization is the support of senior management and leadership. Organizational change is more likely to succeed when key management initiate and support the changes being made (Margulies and Wallace, 1973). This should not be lost on the functional manager trying to implement change. It will be very difficult, if not impossible to implement change without the support of the manager's immediate superiors. The more senior management is linked to the change the greater its chances of succeeding (Dalziel and Schoonover, 1988). The manager may encounter a lack of interest or even some level of resistance from more senior level management. Several ways of overcoming this include briefing senior management on the changes, involving higher level management in the planning, focusing and emphasizing the practical outcomes and benefits of the change, and developing alliances with key individuals (Dalziel and Schoonover, 1988).

B. THE IMPLEMENTATION PLAN

So how does the functional manager get this support? First, the planned changes must be appealing to senior management. These are the changes produced during the PIP. After these plans are sold, next comes the plan to implement them. At this point the key is to devise an implementation plan. One way to look at this is to visualize the organization as moving from a present state to a future state, via a transition state. The present state is the pre-PIP organization. The future state is the restructured (or redesigned) organization, and the transition state is the organization during the implementation (Beckhard and Harris, 1987). There are two important things to determine here. First, decide on the major tasks and activities to be accomplished during this period (the transition state), and second, decide on the structures and management tools to use to effect the change (Beckhard and Harris, 1987).

The implementation plan can be looked at as a set of guidelines, of which the implementation structure is part. Recall that sub-activity A41 calls for a management appointed Project Team to formulate a structure, plans, and guidelines to implement the recommended changes (REAP, 1992). The key then is to devise a plan which accomplishes these goals. This plan will be the work of the Project Team.

1. The Project Team

The changes that are to be implemented were developed by a group that included individuals from throughout the organization. More than likely these individuals were from a variety of departments, a cross-functional team. The Project Team that is to implement the changes should be the same. In fact, they could be the very same individuals that took part in the PIP.

The Project Team is going to be the group that helps the manager sell the changes to the organization. The manager should not expect much commitment from the rest of the organization if the plan for these changes is forced on the organization. Instead the manager should enlist the help of key individuals from various parts of the organization to help sell the plan (Fried, 1991). The members of this group should have both the respect of their fellow employees and the technical expertise that will enable them to intelligently change the organization. Another reason for choosing a diverse group is this helps in spreading the work of implementing the change. This will allow the employees of the organization to gain ownership of the change. The idea being that the manager should ensure that those who are going to be affected by change have a role in that change (Kirkpatrick, 1985).

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2. The Plan

Dalziel and Schoonover (1988) describe implementation as more than planning, it is also a process. They breakdown implementation into five processes:

1. Clarifying Plans: A process in which the specifics of the change are put in writing.

2. Integrating New Practices: A process in which the organization integrates the changes into its operations.

3. Providing Education: A process in which the members of the organization learn the new system.

4. Fostering Ownership: A process in which the members of the organization come to look upon the changes that have been incorporated as their own.

5. Giving and Getting Feedback: A process in which the plan is laid out to the organization, and feedback is evaluated for possible changes in the original plan.

a. Clarifying Plans

Now the manager, or change agent, begins to determine if the plan is workable. This is done by asking questions about the plan. Are the goals and timeline realistic? Are we starting with the right part of the organization? Are the right people involved? In other words, who, what, when, where, and how? These questions are asked

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continually to the members of the Project Team, as well as the members of the organization. (Dalziel and Schoonover, 1988)

A good thorough plan is important. Often organizations will not enough time in the planning stage (Dalziel and Schoonover, 1988). It is seen as a waste of time, but time spent planning can actually be some of the most productive time spent. A good, well thought out plan focusing on contingencies and detail will pay dividends in the long run.

Planning should be seen as an iterative process, requiring thorough outlining of the goals of the implementation, and then constant feedback as the plan is examined. One cannot possibly think of everything at one time. First construct a preliminary plan or outline, that lists the various implementation stages that will occur. The preliminary plan should include the following: methods for winning support for change; gathering information and data about how the changes will affect the organization; predicting problems that may appear during implementation; how to ensure the changes become permanent. As this information is gathered the plan is continuously refined until it becomes a specific plan with almost day-to-day detail as to how the changes will be implemented. A crucial item to remember here is that the manager, or change agent, will have to defend this plan to both more senior management and to the members of the

organization. Generalities and vague ideas will not sell--specifics will. (Dalziel and Schoonover, 1988)

Once the plan is complete it should be publicized. This is important because it helps the members of the organization understand what is going to happen. This understanding in turn may help sell the changes and make the organization's members feel part of the plan.

b. Integrating New Practices

Successful change managers integrate change gradually (Dalziel and Schoonover, 1988). One reason for this is to make the individuals in the organization more comfortable with the change. Another is that this is less disruptive.

Key to gradual implementation is where to start. It is usually best to start with a small, key part of the organization where the change has a high probability of being successfully implemented. This allows for a test case that can be used to see how the changes work, and as a showcase for the rest of the organization. (Dalziel and Schoonover, 1988)

c. Providing Education

Education and training, like planning, is often seen as a waste of time and precious resources, but they can have big payoffs in the long run. Management must understand that it is changing the organization. Things will be done differently now, and the members of the organization must be

educated about and trained in the new processes and procedures. This will make it easier for the changes to be implemented successfully, as well as provide the improved results management is counting on.

One way to effectively educate the members is to relate the training to the basic needs of the end user, and to ensure that the end user is aware of the relevance of the training. The training must be specific towards what the employee will be doing in the improved or redesigned processes. The employee must attain the new skills that are required, and understand where they will fit in the new organization. (Dalziel and Schoonover, 1988)

d. *Fostering Ownership*

An effective way to ma change happen is to include the employees in the change, thereby giving them ownership of the change. If they feel that they own the change, they will be more committed to it and to the new organization. The best way to do this is convince them that the change will be helpful. They need to know the reason for the process improvement. They need to know that it will improve the organization, it will improve their productivity, and it will make their job more interesting and fulfilling. When they become convinced of this they will take ownership of the change. (Dalziel and Schoonover, 1988)

There are several other methods to foster ownership of the change, and they should be used throughout the entire change implementation process. By including key members of the organization in the PIP and in the implementation planning, the manager has already begun to foster ownership. Using the talents and skills of the members of the organization, encouraging input and feedback, and promoting involvement by the employees all lead to a sense of ownership over what is happening. If someone feels they are part of something, that they own a piece of it, then the chances of them committing to it are much higher, and therefore the chances of the change being successfully implemented are much higher. (Dalziel and Schoonover, 1988)

e. *Giving and Getting Feedback*

Feedback is important to determine the effects of the implementation of the changes. There are many ways to receive feedback; periodically scheduled meetings, interviews, written comments, and suggestion boxes are just some of the methods. The point is that there needs to be some method for the manager and the Project Team to know how the changes are going and how the organization's members are reacting to the changes. (Dalziel and Schoonover, 1988)

It is important that this feedback occur during each stage of the implementation. It must be constant. Feedback must also be answered. When an employee has an

input, management must respond. This is important because it lets the employees know that someone is listening to them. It is a good idea to let the entire organization know what the feedback is, and how it is being answered (Dalziel and Schoonover, 1988). This improves the trust between the management and the employees. Even if someone's suggestion is not taken, a stated reason why will often allay any resentment or thought that one is being ignored.

C. SUMMARY

During the PIP stage changes were decided upon to improve the effectiveness of the organization. Now those changes need to be implemented. There are a variety of ways a manager may decide to implement changes within his or her organization. Several factors are important. First, the individuals picked to implement the changes, or at least plan the implementation of the changes must be key members of the organization. This attribute of the Project Team will add legitimacy to it, and make it easier to sell the changes to the rest of the organization. This is critical to the successful implementation of the PIP changes. Second, there must be a well thought out plan to implement the changes within the organization. This plan must take several items into account, but most importantly it must be carefully constructed, and it

must have broad support. Being well thought out will help ensure that it works, and having broad support will help ensure that it is accepted.

IV. MANAGING THE IMPLEMENTATION

Now that a project team has been assigned and a plan for implementing the PIP changes has been formulated, the task for management and the Project Team is to manage the implementation of the changes. One thing they must keep in mind is that the plan that was originally devised should be flexible. As the implementation process rolls out, problems may appear that were not anticipated. (Kirkpatrick, 1985.)

The strategy that management decides to use to manage the implementation is critical. It is important that the implementation strategy be one that is most appropriate for the organization (Sankar, 1991). This will depend on how radical the changes are, the type of organization that is being changed, and the amount of resistance to change.

A. STRATEGY

A important question a manager must decide at this point is to what extent the implementation of the PIP changes will affect the day to day operation of the organization. How will the transition stage be managed? Are the changes being implemented small enough that they can be implemented while the organization continues to operate? Are the changes of such magnitude that the organization, or parts of it, must stop operating while the changes are being implemented.

The implementation of change involves the diffusion of an innovation, the use of that innovation, and the management of the innovation/organization interface (Sankar, 1991). More than likely innovations developed during the PIP will involve substantial changes to the organization and the way it does busir..ss. The mani gement must look at several factors: (1) Where will the changes be initiated? (2) What kind of timetable needs to be set for the implementation of the changes? (3) How will personnel issues and resistance be handled?

1. Where to Begin

The PIP developed changes in the way an organization does business, the way it completes its tasks, the way it handles its processes. So where to initiate these changes? What part of an organization should change first?

There are several possible candidates, each depending on the type and magnitude of the changes, as well as the organization itself. One of the easiest ways to implement change is to begin with a group or segment of the organizat'on that is the most likely to accept change. This would be a group that, because of either the nature of their work or the personnel in the group, are more likely to embrace change (Dalziel and Schoonover, 1988). Since this group is more accepting of change there won't be a great deal of resistance to overcome, if any at all. The other segments of the

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organization will see how well the changes work in this group, and may therefore be more acceptable to change themselves. (Dalziel and Schoonover, 1988).

Similar to this strategy is to pick a segment of the organization where management knows it will be easier to implement the PIP changes. This may not be necessarily due to the willingness of its members to accept change, but due to the nature of that particular segment's processes or tasks. For example, if a group was small, or had a relatively low level of technology or complexity, then it may be a prime candidate to begin implementing PIP changes.

Another candidate for the introduction of the PIP changes is a group or segment of an organization that is in the worst shape and needs help quickly (Beckhard and Harris, 1977). If a segment of an organization is having serious problems then it may be a prime candidate for change.

New or startup segments are good candidates for showcasing new processes. Implementation is easier because there are no current processes that must be changed and resistance should be low (Beckhard and Harris, 1977). This segment can then serve as an example for the rest of the organization.

Temporary project groups are also good places to implement new processes. Normally these groups will have a defined lifespan and a specific goal (Beckhard and Harris, 1977). Implementing the processes within such groups should

be easier to do, and serve as an excellent test platform for the improved processes. This group's results with the PIP changes can be used as feedback for the implementation of these changes into the rest of the organization.

These are some of the possible candidates for the manager to choose to implement the PIP changes. There may be others that come to mind, but the point is to choose a group or segment of an organization where the changes can be the most easily implemented, will accomplish a meaningful goal of the changes, and will serve as an appropriate showcase for the new processes.

2. Timetable

Now that management has decided where to begin implementing the PIP changes, a next question that arises is how fast should these changes be implemented. Should they be implemented as quickly as possible, or should they be implemented slowly and gradually? The answer is that it depends. It depends on the urgency of the situation, it depends on whether the changes are so radical that they need time to implement properly, and it depends on the acceptance of the personnel within the organization to the changes.

One school of thought advocates slow implementation of change. This is especially true if the changes drastically alter the way an organization operates. Managers should prepare members of an organization for the implementation and

make them as comfortable as possible with the changes (Dalziel and Schoonover, 1988).

The slow approach is also more advantageous in other situations. If a manager has a weak power base and needs to elicit the support of other members of an organization in order to effectively implement the changes, then a slow, deliberate approach may be wiser (Kotter, et al., 1979). The slow approach may also be more appropriate when there is a great deal of resistance to the changes. If members of an organization feel that these changes are being shoved down their throats they may resist the changes. If, however, the implementation is slow and deliberate the employees may be more accepting of the changes (Kotter, et al., 1979).

There can be occasions when a fast, quick implementation of the PIP changes may be more appropriate. If an organization is in dire straits and time is of the essence, then a rapid implementation is the better strategy (Kotter, et al., 1979). If an organization is small and the changes are not that overwhelming, then there is no reason to take a slow approach. An all-at-once implementation would be appropriate in this situation.

Whichever type of timetable is chosen, management must make all attempts to adhere to it. It is easy to develop an implementation plan and timetable, but then depart from the schedule goals that were set (Dalziel and Schoonover, 1988). While this does not mean that the schedule cannot be flexible,

management should become concerned if the deadlines are always being adjusted. If deadlines are continuously adjusted then either the commitment to the plan or the plan itself must be reexamined.

3. Personnel Issues and Dealing With Resistance

One of the biggest problems management may deal with in implementing the PIP changes is the resistance of the personnel of an organization. Personnel are accustomed to working in a certain way and used to certain processes. Now that is all changing, maybe radically. There is bound to be a certain level of resistance from some individuals. The task for managers is to overcome this resistance and get the changes implemented. There are two parts in dealing with apprehension by personnel: overcoming resistance to change and gaining commitment to the changes from members of an organization.

a. Overcoming Resistance

Kotter, et al., (1979) describe six steps for dealing with resistance. They are:

1. Education and communication. There is a reason and logic to the PIP changes being implemented. There is a reason why an organization had to change. Tell the members this. Explain to them what is being done, and why. This helps overcome resistance when ignorance about the changes is the reason for the resistance.

2. Participation and involvement. This is consistent with some of the ideas presented in Chapter III. The more people have a part in what is happening to them the more they are willing to accept these changes. One drawback to this is that management may end up spending a lot of time trying to include everybody who has a problem with the changes. This should be managed carefully.

3. Facilitation and support. Managers can overcome resistance to change by providing new training and education to an organization's members. This is important if the new processes require new skills. Emotional support as well can help alleviate fears, and in doing so overcome resistance.

4. Negotiation and agreement. If someone feels that they are going to lose as a result of changes in the organization then they will probably resist. This can be overcome by offering them incentives for going along with the new system. This way they feel as though they are not losing anything. The manager should be careful that any incentives offered are real and not just a way of buying off someone. This strategy could end up backfiring if the resistors feel that is how they are being treated, or other employees discover that others are being bought off, and then they want something as well.

5. Manipulation and co-optation. This is a covert way of overcoming resistance. Manipulation involves providing the individuals with selected pieces of information in order to get their support. Co-opting involves giving someone a

seemingly meaningful role in the implementation or the new structure, but not for their expertise or talent but for their support. It is not clear that the use of such techniques are appropriate or ethical.

6. Explicit and implicit coercion. Force resistors to go along with the changes. Holding their jobs as ransom for their support. This can be effective when time is of the essence, but using coercion may make it difficult to gain long term support for the changes.

b. Gaining Commitment

Before management can expect to gai· the commitment from members of an organization the leadership must be firmly onboard with the changes. The leaders of an organization can serve as role models for the rest of the organization, demonstrating their commitment to the changes (Beckhard and Harris, 1987). Change in the organization will also require the commitment of a 'critical mass' of individuals that need to be part of the change (Beckhard and Harris, 1987). These individuals will be the bedrock for the implementation of the PIP changes. A commitment plan to gain this vital support may be necessary. The plan should (1) identify and target the key individuals whose commitment to the changes is necessary, (2) define the critical mass, (3) develop a plan to get the support of the critical mass, and (4) create a program to monitor this (Beckhard and Harris, 1987).

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There are several methods to keep track of the commitment of potential critical mass individuals. One method, commitment charting, lists the key players and different levels of commitment required, from no commitment to passive commitment to active commitment. Management should chart where these individuals are on this spectrum and where they are needed. Charting will give management an idea of who are the critical people whose commitment is required, and what is their current level of commitment.

B. CHANGE COMMUNICATION

A theme throughout any of the literature on implementing change is the necessity of providing good, two-way communication. Communication is the key to the management of change (Kirkpatrick, 1985). Communication is the mechanism of coordination for an organization (Sankar, 1991). Providing feedback to members of an organization, no matter how minor, will help (Burke, 1987). The need for communication should be obvious. The PIP is going to produce changes in the organization, changes that will affect a great many individuals. These individuals need to understand what the changes are, and how they will be affected. The communication should be more than telling, it should create a climate of understanding, and when communicating the change those who are concerned as well as those that are involved must be included (Kirkpatrick, 1985).

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There are several items a manager should keep in mind concerning communication. First, communication is a two-way street. Management needs to provide the organization with news about the changes, and the status of their implementation. Management must also be open to feedback, always listening to how the changes are going and how the organization is handling them. The communication should be also be continuous. For this to happen effectively a good rapport must exist between the various levels of the organization. Attention should also be paid to the organizations structure or chain-of-command. Bypassing any level could undermine someone's authority and may do more harm than good. (Kirkpatrick, 1985)

Difficulty in communicating may be a result of the presence of barriers between the sender and the receiver. These individuals may not even know that barriers exist, but if the message is not getting across, then an examination of the situation is required. Possible barriers that are the fault of the sender could include ignorance about the receiver, a negative attitude by the sender towards the receiver or the message, a desire by the sender not to want to communicate, or poor communication skills on the part of the sender. Possible barriers that are the fault of the receiver could include being busy with something else, a dislike of the sender, a desire not to want to hear the message, or anticipating the wrong message. A common thread among these

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barriers is a lack of understanding between the sender and receiver. To break down these barriers both the sender and the receiver must be willing to listen to each other, the receiver with an open mind about change, and the sender willing to listen to feedback and having an understanding of the receiver's feelings. (Kirkpatrick, 1985)

There are two methods of communication: oral and written. Each has an appropriate time and place to be used, but each should be used. Oral communication works well when feedback is needed right away, when management needs a quick response from employees. Oral communication is also a less formal way of communicating, appropriate when no written record is required. It is also more appropriate when the communication must occur immediately, when a certain amount of persuasion may be required, or when discussion about the topic is needed. Written communication is a more formal method. It is more appropriate when a written record of the communication is required. It is the proper method when the communication is complex, or when step-by-step direction is involved.

C. SUMMARY

An important part of managing change is to decide on a strategy for the implementation of the changes. Several items must be kept in mind. First, management must decide where in an organization to begin the implementation of the PIP changes. Second, management must decide on a timetable for

the implementation process. Third, management must have a means for dealing with resistance to the changes and gaining the commitment of the members of an organization. Lastly, in addition to deciding on an implementation strategy, management must ensure that clear and effective communication is happening during the implementation process.

V. MONITORING AND EVALUATING CHANGE

A. BACKGROUND

A critical question managers implementing change must ask is, how will I know the change is working and the organization is headed in the right direction? Assessing the change effort is a difficult issue that confronts managers and must be viewed as a necessary part of the change effort (Beckhard and Harris, 1977). Several questions must be asked:

1. How will we know the changes are worthwhile?

2. Has the change effort worked?

3. How can we be assured that particular results are a result of the changes instituted?

4. How will the new organization be maintained?

5. How do we monitor change? (Beckhard and Harris, 1977)

These questions can be answered by developing a plan and establishing a structure that monitors and evaluates the changes.

B. MONITORING AND EVALUATION STRATEGY

Monitoring and evaluation can be defined as a set of planned, information gathering, and analysis activities designed to provide management with a way to assess the change efforts (Beckhard and Harris, 1977). A structure or plan formalizes this aspect of the change implementation.

There are several requirements to consider when developing an evaluation plan. Managers must clearly define the purpose and functions served by the evaluation, determine the types of information that will be gathered and evaluated, choose a method of information (or data) collection, and decide when it will be evaluated (Beckhard and Harris, 1977).

Managers should be looking for certain results when they begin to monitor the improved or redesigned processes. During the PIP, when the business processes were examined and changed, management did so expecting improved results once these processes were implemented into the organization. A philosophy management should have in mind while monitoring the changes is to watch and see if the improved results occur. If they do, then things are going well and the implementation should continue as planned. If the desired results do not appear, or if there are adverse affects of the implementation, then management needs to look at the improved processes and the implementation plan to see why the desired results are not being achieved. (Harris, 1993)

The Total Quality Management (TQM) concept identifies several tools that are available for managers to use to analyze processes. Some of these tools include cause-and-effect diagrams (also known as fishbone diagrams), histograms, Pareto charts, control charts, and brainstorming. The goal of each of these tools is to provide managers with a method of analyzing what is causing certain results, and how changes can

be made to the processes to achieve the desired results. (Heilpern and Nadler, 1992)

The evaluation plan can have strategic implications for evaluating and even implementing the changes. First, the plan can serve as a total systems review. It can serve as a yardstick by which the changes are measured. For example, the outcome of the implemented changes can be compared to what was expected or desired. Have the desired outcomes been achieved? Are there any undesirable results or consequences as a result of the changes? Are there more changes that need to be implemented? The evaluation plan can also help implement the changes. If the implementation plan has specific milestones that have to be accomplished at specified times, then this will serve as a force to keep the change effort moving. These evaluation milestones serve as driving forces behind the implementation of change. (Beckhard and Harris, 1977)

Monitoring and evaluating the change implementation will involve collecting data, and the method used is dependent on the nature of the evaluation. The data can be collected slowly and comprehensively to evaluate the changes after they have been implemented, or the data can be collected on an ongoing basis as the changes are being implemented. The latter method is appropriate when the changes require adjustments as they are being implemented. The periodicity of the data collection is important as well. A manager needs to determine when the data is required and when action needs to

be taken. This will determine when the data will be collected. (Beckhard and Harris, 1977)

Managers must look at the periodicity of the data collection in a risk-management framework. Choosing to look at the evaluation criteria at the end of the implementation may be easy, but it is also risky. At the end of the implementation stage it will be too late to make any adjustments to the implementation, and the PIP may have to be repeated. On the other hand, constant monitoring and evaluation during the implementation process may catch mistakes before it is too late, and changes can be made to the processes. (Harris, 1993)

A manager needs to be careful how the members of the organization view the evaluation process. If it is perceived that certain results are desired by management, then those may be the results that are reported. To avoid this it should be made clear the purpose f the evaluation and data gathering. The need for accurate information on how the changes are working needs to be stressed. A distinction needs to be made between the evaluation of the changed processes, and the evaluation of the individuals. (Beckhard and Harris, 1977)

Personnel issues are important in the evaluation process. Who will conduct the evaluation? Individuals from the Human Resource department are usually equipped with surveys and questionnaires that can diagnose certain aspects of the organization before and after the change, but they may lack

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the technical skills to evaluates changes in business processes (Tichy, 1983). If the changes are technical in nature, that is, if they have changed the processes that are the nature of the organization, then personnel with technical skills and experience are better qualified to collect and measure data about the changes. A mixed or cross functional group may also be appropriate.

The status of the change leadership is important as well. If managers whose support and effort is required for designing and implementing the changes are not going to be around after the organization ha; changed, then an effective evaluation may be difficult to accomplish (Tichy, 1983). The evaluation will be difficult because the leadership that instituted the changes will not be there to evaluate the changes. The new leadership may not care as much about the new processes, or their evaluation may be based on different criteria, criteria inconsistent with the original goals of the changes.

1. Approaches to Monitoring and Evaluating Change

Tichy (1983) has developed five generic approaches to monitoring and evaluating change. Each one is appropriate for different circumstances. Managers need to determine which approach is most appropriate based on the characteristics of the organization and the nature of the changes being implemented.

a. *Basic Research and Development Orientation*

This approach involves the systematic testing and evaluating of the new processes. It is appropriate when there is a great deal of technological sophistication involved in the change, and the culture of the organization is accustomed to dealing with change in an experimental atmosphere. The changes can be viewed as an experiment, and can implemented in parts of the organization at a time. If they are successful then they can be introduced into other parts of the organization. With the Basic Research and Development approach, the monitoring and evaluation can be accomplished is in a controlled environment, and therefore the results are more easily measured.

b. *Experimenting Intervention Orientation*

This approach is similar to the Research and Development approach, but instead of monitoring and evaluating a specific segment of the organization, the changes are introduced to the whole organization and the results are examined as the organization continues to operate. As the changes are implemented, measurements are taken and corrections made if needed.

c. *Guidance Systems Approach*

This approach requires that systematic data be gathered throughout the implementation of the changes, and the results used to guide the changes as they progress. The

measurements are taken to catch mistakes and correct them, not to punish members of the organization. There is no experimentation involved. The culture of the organization must support this type of evaluation in that it should be understood that when changes are being made and processes done differently, there will be mistakes. The idea is to discover these mistakes and correct them before they become permanent.

d. Audit Approach

This approach involves management taking a detached view of the changes. Management stands back and assesses what it is doing and verifies that the plan on track. This assessment will normally take the form of progress meetings and/or status reports.

e. Informal Anecdotal Approach

This is the least formal of all the approaches. Information is picked up via people's observations of the results of the changes. There are no formal evaluation criteria. This approach is appropriate when the organization does not require or is not accustomed to systematic evaluation or monitoring, for example, in situations where there is a relatively low level of technology or when the changes being implemented do not interrupt the actions of the organization.

C. SUMMARY

The implementation of change is not complete until there has been some sort of monitoring and evaluating of the changes

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and the new system. A strategy and plan should be developed
that formalizes what results and effects the leadership and
management are looking for in the new system. Management
should be aware of what these desired results are, and how
they will be measured. If the desired results are being
achieved, then leave things alone. If they are not,
management needs to examine the changed processes and the
implementation plan. Different strategies are more
appropriate depending on the nature and scale of the changes,
as well as the nature of the organization.

VI. EXECUTING CHANGEOVER AND ESTABLISHING STABILITY

The previous chapters have discussed techniques managers can use to plan the implementation of change, and then manage and monitor the implementation. Once these changes have been installed there comes a point where the organization must recognize the new system, begin to operate in it, and develop mechanisms to ensure continuous process improvement.

A. BREAKING WITH THE PAST

It should be understood that the completion of the change implementation is a major event, and should be recognized as such. There is a new system in place and the organization will no longer be the same. One way management can recognize the new system is through some sort of formal or informal ceremony or celebratory event (Burke, 1987). While this is symbolic, the effect is to show management's break with the past and its embracing the new system. Managers should be aware that for some people the old processes were what they were used to and perhaps they were even very proud of the old ways. The celebration should be seen not as a trashing of the old system but of the introduction of a new one (Burke, 1987).

When the organization begins to operate in the new system, management must keep two things in mind. First, management must prevent any movement towards the old way of doing

business, and second, it must ensure that the organization is continually improving itself.

Depending on the nature of the process changes, whether it is incremental process improvement or complete process redesign, it may be very easy or very difficult to drift back to the old ways. To prevent any sort of relapse there must be continuous monitoring by management. Continuous monitoring should be considered part of a continuous transition. Another aspect of continuous transition important for management to consider to solidify the implemented changes is to establish explicit procedures to set priorities for continued process improvement. The organization has redesigned its processes, and further process improvement or process redesign should be encouraged. To facilitate continued process improvement there needs to be an established mechanism for positive feedback from the members of the organization. This should not be a problem since feedback has been part of the implementation process all along. This feedback will help with developing ideas for continued process improvement, as well inform management of the results of the changes already implemented. The underlying themes should be constant appraisal of the organization's performance and constant process improvement. (Beckhard and Harris, 1977)

Management also needs to look at the organization's rewards system. The old system rewarded people based on the goals and objectives of the old processes. Rewards take the

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form of evaluations, awards, and promotions. The new reward system must now reflect the new way the systems operates. The new reward system can be used help implement the new behaviors and goals of the improved system, and serve as an inducement for the rest of the members of the organization to get onboard with the new system (Burke, 1987).

B. MONITORING THE NEW SYSTEM

As was mentioned above management needs to establish mechanisms to ensure the new system continues to operate, but also continues to improve. Beckhard and Harris (1977) describe several mechanisms an organization can use to provide management with information on how the new system is operating, and how to disperse information throughout the organization.

1. Periodic Team Meetings

Management periodically meets with various department heads, key individuals involved in the new system, and others to review current operations, determine if the new goals are being met and the new processes are being followed, and set goals and objectives for the next meeting. (Beckhard and Harris, 1977)

2. Organization Sensing Meetings

Top managers and management meet with a sample of employees from throughout the organization in a variety of different configurations to discuss the new system. The

objective is to provide management with diverse feedback. The format of the meetings and the method for choosing the employees who are to attend can be determined by a head of a department or division. (Beckhard and Harris, 1977)

3. Periodic Intergroup Meetings

This format is appropriate when there has been a change that has resulted in a new relationship between different parts of the organization. These meetings allow for coordination between the different groups to work out project management, shared resources, work procedures, and other issues that may develop between two groups working closely together. (Beckhard and Harris, 1977)

4. Renewal Conferences

This mechanism takes the form of retreats where management can get away and take a look at organizational priorities, share perceptions about the way things are going, or other topics that lend themselves to be discussed in an informal and isolated environment. (Beckhard and Harris, 1977)

5. Goal-directed Performance Review

As was mentioned above the new system needs to have a reward system that recognizes employee performance within the system. A good way of ensuring that the employees are aware of what is expected of them under the new system is to develop a goal-directed performance appraisal program. Not only is an employee's performance for the review period examined and

critiqued, but goals and objectives for that individual under the new system are set. This will help correlate the efforts of the employee with the goals of the new system. (Beckhard and Harris, 1977)

C. SUMMARY

This chapter discussed the importance of ensuring that once the improved processes have been implemented, the organization ensures that it not retreat to its old ways, and continually improves on itself. This requires management to continuously monitor the organization as it operates with the new processes. Additionally, a new reward system needs to be installed that emphasizes employee behavior consistent with new system. Lastly, management must put into place mechanisms that help it keep its finger on the pulse of the organization as it operates under the newly implemented improved processes.

VII. CONCLUSIONS

The goals of this thesis are to provide information and guidance to the DOD functional manager in the implementation of changes developed during the Process Improvement Process (PIP), and to verify that the descriptions of the sub-activities in the A4 (Implement Changes) breakdown are supported by current management theory. The conclusions will summarize the A4 activity breakdowns (A41 through A45) and compare them to the material presented in Chapters III through VI.

A. REAP MODEL COMPARISON

Sub-activity A41, Establish Implementation Structure, calls for the establishment of a management-appointed Project Team to be tasked with formulating a plan for the implementation of the PIP changes. We have discussed ways to effectively form a Project Team and formulate an implementation plan. We called for a cross-functional team picked from throughout the organization to help sell the plan to the organization. The literature supports this approach. Key individuals from throughout the organization should be part of this team. The sub-activity also calls for the Project Team to create a structure to implement the changes using established techniques. This is the implementation

plan. We discussed breaking down the implementation into five processes to help ensure that it is well constructed and has broad support.

Sub-activities A42 and A43. The REAP description of A42 calls for using the implementation structure, the Project Team and its plan, to manage the implementation. We stressed the importance of developing a strategy to guide this implementation. The most important parts of this strategy are deciding where to begin the implementation, what timetable to settle on, and means for dealing with resistance to the changes and gaining commitment. We stressed these aspects of project management rather than discussing scheduling techniques such as PERT or Gant charts.

We also discussed change communication. A43 describes the importance of getting the word out to the various levels of the organization. The material in the chapter reiterates this need, and provides methods for management to communicate the changes to the members of the organization.

Sub-activity A44, Monitoring and Evaluating Change. This sub-activity calls for the use of the implementation structure to help the Project Team and management evaluate the new processes as they are being implemented. We emphasized the need for management to develop a strategy for the evaluation. This strategy should be based on the nature of the process changes and the nature of the organization. Several approaches for a monitoring and evaluation strategy are discussed.

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A45, Execute Changeover. This sub-activity is described as the actual point in time that the organization has changed over to the new structure. We discussed this topic from the point of ensuring the new systems stays in place. We emphasized management's need to prevent any retreat to the old processes, as well as the importance of continuous process improvement. These are aspects of continuous transition, an ongoing effort on the part of management to keep the organization improving itself. We also addressed the need for the organization's reward system to change to reflect the new goals, and the need for management to monitor the new system.

B. CONCLUSION

The REAP report of August 1992 showed what a functional manager in DOD needs to be aware of when attempting process improvement or redesign. This thesis attempted to describe guidelines for that functional manager on how to implement the improved or redesigned processes within his or her organization. Several key themes or ideas can be extracted to emphasize what is most important in the implementation of change within an organization. The most significant of these is the support and involvement of the leadership of the organization. The leadership should be the driving force behind the changes, pushing the rest of the organization along. The employees of the organization will know that the changes are for real when they see this. Without this
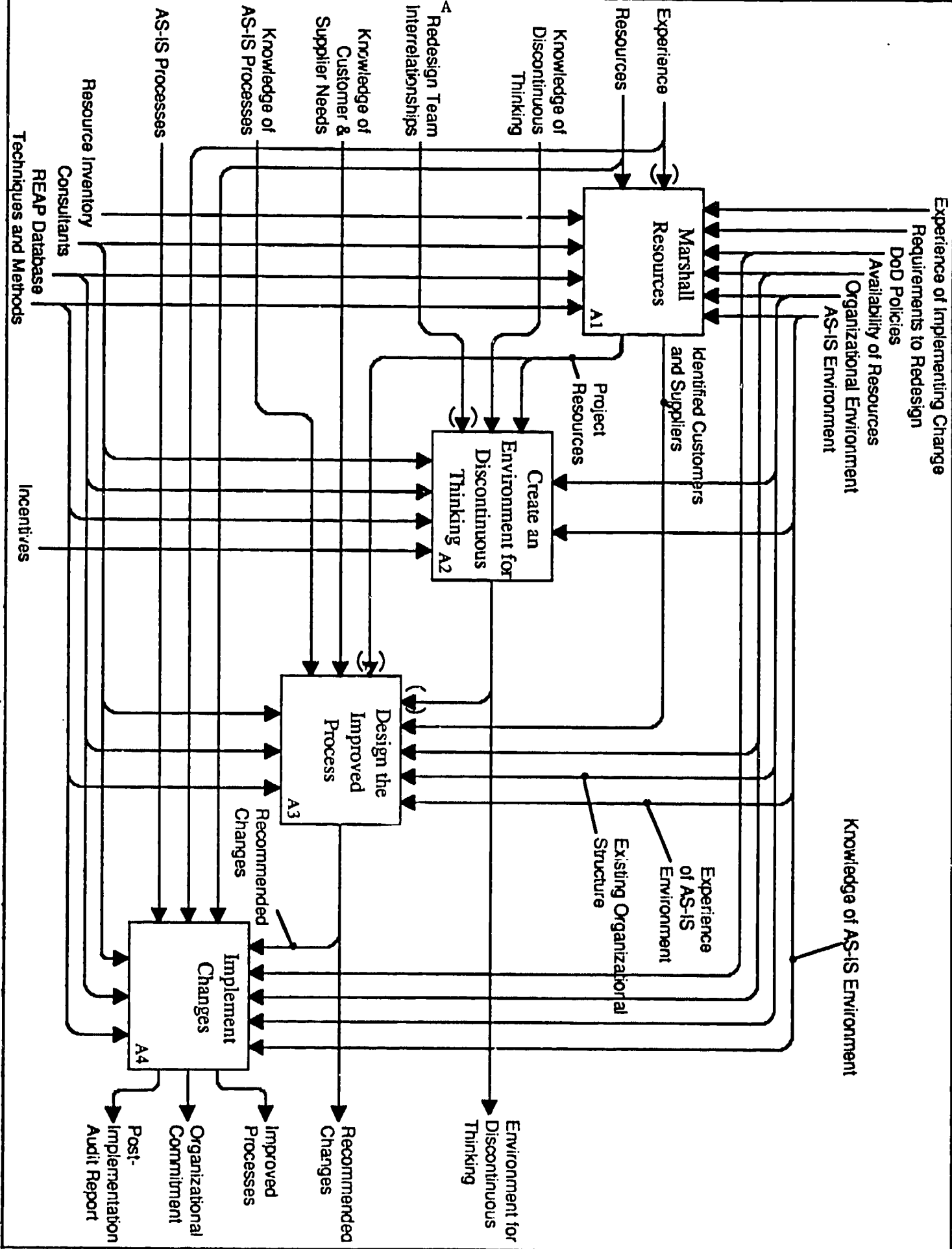
leadership from the very top the effort will have difficulty even getting started.
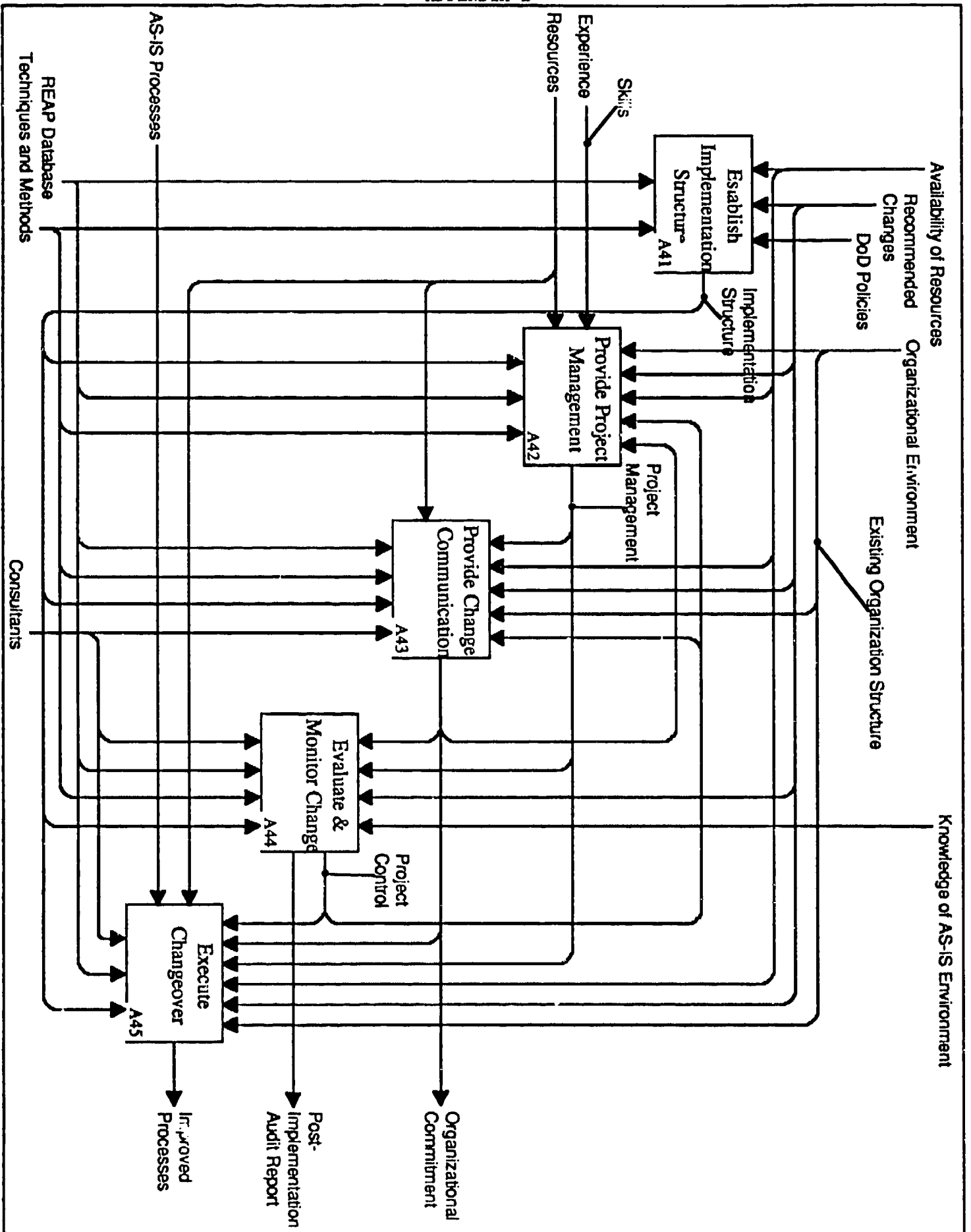
Second, the change implementation needs to include a diverse group of key individuals from throughout the organization to help plan the implementation. They should be diverse in that they are a cross-functional team, representative of the various departments and divisions of the organization. This will help to ensure that a wide range of expertise is being used. They should be key individuals in that they posses the technical knowledge required to help implement changes in the organization, and that they have the respect of the peers and subordinates. This will add legitimacy to the changes in the eyes of the organization's employees.

Lastly, management must constantly communicate the changes to the organization. Change, especially PIP or process redesign changes, will likely be of such magnitude that there will be resistance to it. Support from the leadership and employee involvement can help overcome some of this resistance, but management must constantly be telling the organization's members what is going on and how it will affect them. This will help alleviate come of the fear, as well as help gain commitment to the changes the organization has embarked upon.

As stated earlier the two research goals of this thesis are to provide information and guidance to the DoD functional

manager on how to implement change, and then to verify that the ideas in the Implement Change process are supported by current management theory. We provided this information and guidance in Chapters III through IV, and the research for this thesis showed that current theory supports this PIP activity. The information is not designed to provide a cookbook approach to implementing change in organizations. Rather, it is intended as a guide or framework for managers, providing information on how to effectively implement change, and what factors are especially important in implementing change. It is hoped that this thesis will make it easier for managers to accomplish this, especially in times of limited resources and emphasis on quality and process improvement.

A

Marshall Resources A1

Create an Environment for Discontinuous Thinking A2

Design the Improved Process A3

Implement Changes A4

Experience of Implementing Change
Requirements to Redesign
DoD Policies
Availability of Resources
Organizational Environment
AS-IS Environment

Knowledge of Discontinuous Thinking
Experience
Resources

Redesign Team Interrelationships
Knowledge of Customer & Supplier Needs
Knowledge of AS-IS Processes
AS-IS Processes
Resource Inventory
Consultants
REAP Database
Techniques and Methods
Incentives

Identified Customers and Suppliers
Project Resources

Existing Organizational Structure
Experience of AS-IS Environment
Knowledge of AS-IS Environment

Recommended Changes

Environment for Discontinuous Thinking
Recommended Changes
Improved Processes
Organizational Commitment
Post-Implementation Audit Report

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